

Date: Wednesday, 02/04/2008 3:39:35 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	X-TUBE EXTRUSION
<b>Job Number</b> :	38341 - <del>W</del>		
<b>Estimate Number</b> :	11108		
<b>P.O. Number</b> :		<b>Part Number</b> :	D6008180
<b>This Issue</b> :	02/04/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D6008 REV A
<b>First Issue</b> :	//	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	34688	<b>Drawing Revision</b> :	A
	<b>Type</b> :	<b>Material</b> :	
	LANDING GEAR	<b>Due Date</b> :	26/09/2008
<b>Written By</b> :		<b>Qty:</b>	22
<b>Checked &amp; Approved By</b> :	<u>JD 08.4.03</u>	<b>Um:</b>	Each
<b>Comment</b> :	Est Rev:C 04.06.15 Added tolerance to Step 2 KJ/JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: 6063

C208104104

(22)

a) Order as per Dwg D6008

b) Material: 3.250 x 0.438 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6008)

f) Material certification required

2.0	D6008180P	Crosstube extrusion
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 22.0000 Each(s)

Crosstube extrusion

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

P-8/12

(24)

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6005

S 09/04/12 (22)

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 02/04/2008 3:39:35 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE EXTRUSION

Job Number: 38341

Part Number: D6008180

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*Handwritten:* 2/14 08/06/13

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

*Handwritten:* Back hall

*Handwritten:* RT 08-06-13 (24)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*Handwritten:* 08/06/13

Job Completion



*Handwritten:* MF 08-06-13

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

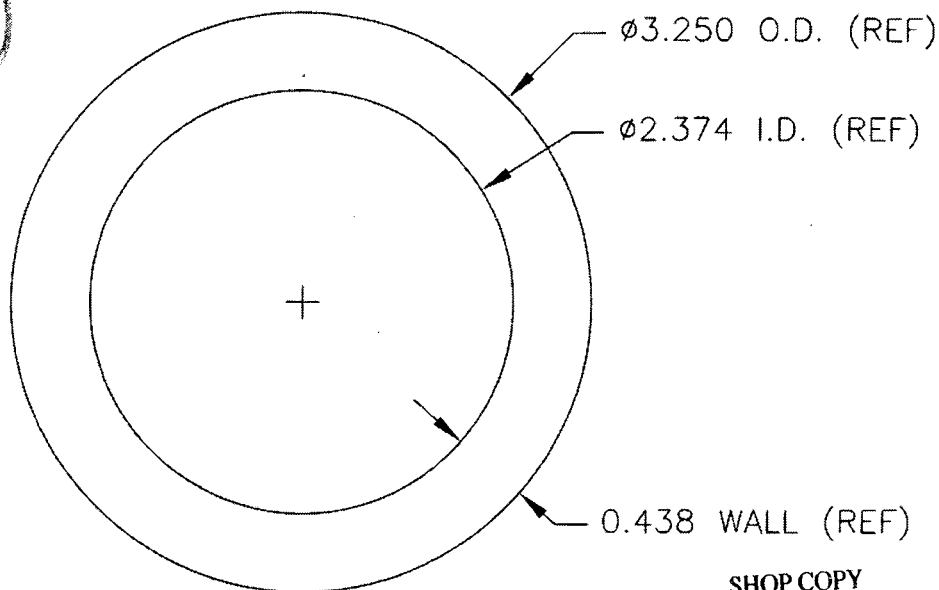
**NOTE:** Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D6008	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
00.11.24 *#*



### NOTES

- 1) D6008-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 180" LONG TUBE: D6008-180

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 38341

- 2) MATERIAL: 3.250 OD x 0.438 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.044$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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ALUnna

## Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

**Kunde:**  
Client:

Dart Aerospace Ltd.

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada**Produkt:**

Product / Produit:

**Spezifikation:**

Specification:

**Werkstoff:**

Alloy/Alliage:

**Abmessung**

Size / Dimension

**Kennzeichnung**

Marking/Marquage:

**Lieferung**

Delivered Material / Matériel délivré:

7075

3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH  
D6008-180 3.250 x 0.438 x 180ALUnna - Cert No. 780/08 - 7075 - T 6511 - Cast No. 81741 - AMS - QQA 200/11 - 3.250" OD X 0.438" Wall - Heat  
Lot No. 1173 - ALUnna Order Conf. No. 29103/1-1 - PO. 00006063

pcs.

lbs

24

1684

Country of Manufacture: Germany

## 1. Chemische Analyse

## Chemical Analysis / analyse chimique

Charge/ Cast No.	min.	max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
81741			0,40	0,50	1,2 2,0	0,30	2,1 2,9	0,18 0,28	5,1 6,1	0,20					
			0,07	0,14	1,46	0,04	2,47	0,19	5,83	0,04	0,01	0,03	0,01	0,01	0,0001

Hydrogen content: 0,10

ccm/100 g Al Elements without indication &lt; 0,01 %

country of melt manufacturer: Germany

## 2. Mechanische Eigenschaften

## Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min. max.	77,0	66,0				
1	85,840	78,590	11,0			
2	86,565	79,460	10,0			
3	85,985	78,735	11,0			
						1173 - 24 pcs.

**Ergebnis der  
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

Resultats:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

Kramper

03.06.2008

Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003  
valid until 2010-11-11

Cert.- Reg. No.: 001959 QM; 001959 ASH

Aluminiumwerk

ALUnna

**Packinglist ALUnna AG**

Customer PO	PO. 00006063
ALUnna ref. no.	29103/1
Date:	06.03.08

**Boxmarking:**

Dart Aerospace PO. 0006063 Airfreight
D 6008 - 180 Made in Germany
Dest. Hawkesbury Ont. Canada

We hereby declare that the wooden packing material are totally free from bark and apparently

**Free from live plant pests**

[illegible]

